

ABSTRACT

DISTRIBUTION OF FIG MOSAIC DISEASE IN SOME DISTRICTS OF THE AYDIN PROVINCE, IDENTIFICATION OF THE CAUSAL AGENT, ELIMINATION OF FIG MOSAIC BY FIG SHOOT-TIP CULTURES AND THERMOTHERAPY

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Turkey meets about 26% of world fresh fig production and 59% of dry fig production. With the advantage of being the most important fig producer in the world, Turkey is also the leader in dried fig production and its exportation. Besides, “Bursa Black”, is the highest quality black figcultivar in the world, receives an increasing demand from European countries because of its extraordinary taste, hard fruit structure and long shelf life. The most important production area of the Sarılop variety, which consists more than 90% of fig production Aydın province with its unique microclimate. Fig mosaic disease reduces growing potential of this key export product. This is a disease causing weakness in trees, and low yield and quality occur seen in all regions where figs are grown. Manifesting itself on fig leaves and particularly in unripe fruits, it is reported to increase its effects particularly in saplings under stress conditions with high temperatures and resulted in economic losses due to dryings. This study was to determine the prevalence of fig mosaic disease in the province of Aydın, molecular and biological studies to diagnose the disease-causing agents to make and factors of disease-free, Sarılop and Bursa Black Figs plants are planned to achieve. Accordingly, Nazilli, Germencik, İncirliova and Bozdoğan, counties Aydın province, surveys were carried out and the disease status of fig orchards. Fig mosaic disease are caused by factors of, Fig mosaic virus (FMV), Fig mosaic associated virus-1 (FMaV-1), Fig mosaic associated virus-2 (FMaV-2), Fig leaf mottle associated virus-1 (FLMaV-1) and Fig leaf mottle associated virus-2 (FLMaV-2) with their primer pairs factors, RT-PCR analysis was made.

As a result of RT-PCR tests, Aydın isolates, of FMV and FMaV-1 viral agents were identified and exhibiting their DNA sequence analysed. The results obtained were compared and the phylogenetic relatedness of isolates was stored in gene banks.

Besides by using Aydın isolates, to the host environment, transmission and storage of plant sap bud mite *Aceria ficus* Cotte. fig determine and causal agent. Studies were carried out with the relocation. Bu employing shoot tip culture and thermotherapy to virus free materials were obtained from healthy Sarılop and Bursa Black fig. By there fast and reliable methods, which are tested by RT-PCR *in vitro*, Sarılop and Bursa Black fig seedlings, determined that the FMV and FMaV clean in terms of viral factors.

Key words: Sarılop, Bursa Siyahı, *Aceria ficus*, mechanical inoculation, FMV, FMaV-1, cloning, sequence analysis, shoot tip, thermotherapy